

40 Points

*you should consider
in building your new home*



MITCHELL LUMBER
COAL COMPANY
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FEW EXPERIENCES in your lifetime can bring the thrill of pride and the feeling of satisfaction that awaits you when you build your own home. Converting your dreams of a lifetime into reality, becoming a figure of influence, taking your place as a property owner in your community—what can compare with that feeling! “A home of my own” is more than just a familiar phrase. It is one of our most fundamental ambitions—the most outstanding characteristic of the American people.

Many people, however, approach this event with apprehension for they recognize that it is not easy to distinguish between a well built house and a house of flimsy construction. Perhaps you too have wondered about these things in the house you are considering—wondered whether it would be a constant source of future expense for maintenance, whether it would provide adequate protection against fire, whether it would be warm and economical to heat in winter—comfortable in summer.

In publishing this book we have discussed these and many other problems of home building in an effort to help you avoid mistakes in what is probably the most important investment you have ever considered.

JOHNS-MANVILLE



WHEN YOU PLAN TO BUILD . . .

KEEP THESE BASIC ESSENTIALS IN MIND

THERE are certain broad, basic points about building a house that are essential if you are to have a home that will be, literally, "a thing of beauty and a joy forever." Many undesirable features of inferior houses with which we are all familiar can be avoided if these points are kept in mind:—

● *Knowledge of good construction* will aid you in discussing your house with your architect and builder and in understanding the various steps in its construction. It will also add to the thrill and enjoyment of building your own home. In this book we have discussed some of the points you should look for to insure a home that will endure.

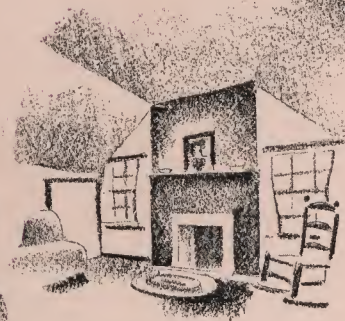
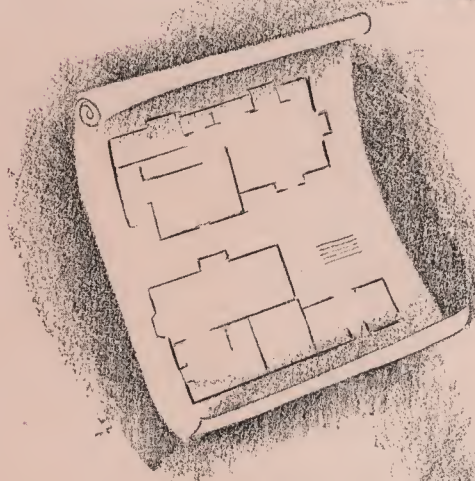
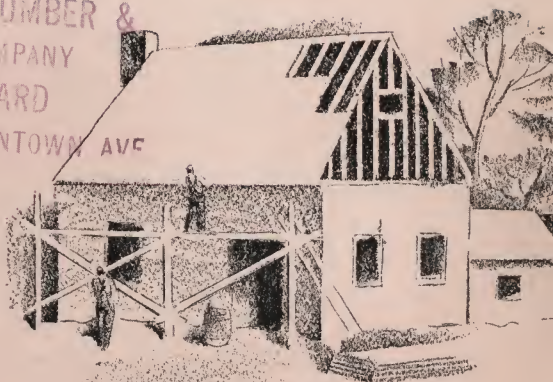
● *Good design* and efficient planning, both on the inside and the outside of your home are essential to lasting satisfaction. Houses may be well-built and yet be so unattractive or so poorly arranged that they are liabilities. You can guard against these unfortunate errors by retaining a competent architect whose services are many times more valuable than his modest fee.

● *Sensible financing* under an amortizing mortgage plan will add much to your peace of mind and the enjoyment of your new home. You should investigate the new mortgage plan made possible by the National Housing Act which insures that you will some day actually own your own home outright. Your bank or building and loan association will gladly give you advice and information.

● *Reputable materials* are good "insurance" for a trouble-free home. Insist on materials made by manufacturers whose names you know, manufacturers who have been in business for generations because their products have given consistent satisfaction. Investigate the new modern materials available from your local building material dealer which will make your home the last word in safety, comfort, convenience and economy.

● *Competent workmanship* is perhaps the most important of all these basic essentials. Poor or careless workmanship and slipshod construction can ruin the most perfect design and the best of materials. You can depend for competent workmanship upon a reliable builder who has a reputation for building honest, well-built houses.

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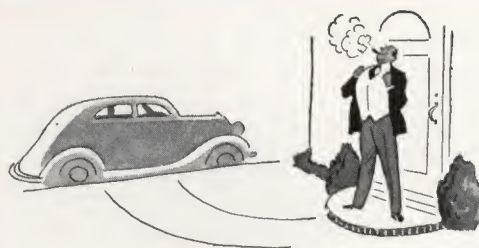


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THE OLD-FASHIONED FIXED MORTGAGE PLAN

1. *You borrow \$5,000.*
2. *You pay \$275. in interest at 5½% each year, plus taxes and insurance.*
3. *Interest payments do not reduce either the principal or the interest.*
4. *In 20 years you have paid \$5,500. in interest.*
5. *After 20 years you still owe \$5,000.*



THE FHA AMORTIZED MORTGAGE PLAN

1. *You borrow \$5,000.*
2. *You pay \$36.78 each month covering interest, mortgage insurance, service charge and reduction of principal, plus taxes and insurance.*
3. *Each monthly payment reduces both the principal and the interest.*
4. *In 20 years you have paid only \$3,827.20 in interest, mortgage insurance and service charges. (Interest is only \$2,917.60).*
5. *After 20 years you owe nothing.*

Some SUGGESTIONS as to how to go about FINANCING your New Home

IN THE FIRST PLACE, you should know what price you can afford to pay for a home. Leading authorities on finance and economics agree that the average head of a family can afford a home that costs from 2 to 3 times his annual income. At the same time they point out that the monthly carrying charges (interest, taxes, and reduction of principal) should not exceed one-quarter of your monthly income. Let us assume that your income is \$3,000 per year or \$250 per month. Taking the lower figure set by the experts you can afford a home that costs not over \$6,000 (2 x \$3,000). Your monthly carrying charges should not exceed \$62.50 (¼ of \$250).

Obviously, you must have some cash to start with (and the more the better to save money) so the next thing to determine is how much of a down payment you can make. Right here is the time to go to a bank, building and loan association or insurance company.

Tell the loaning officer frankly of your situation and ask his advice. He will explain to you the details of the FHA mortgage plan or the equally modern amortizing mortgage plan his company can offer you and will tell you just how much cash you will need. This will probably be from 20 to 40% of the total cost of the house and lot or as much more as you can afford to pay. Again, being conservative, if your house and property are to cost \$6,000 you should have \$2,400 in cash to start with (\$2,400 = 40% of \$6,000).

When you have your estimates on the cost of building your house all prepared, submit them to the financial institution with whom you are dealing. Their experts will check over everything, especially the building materials and the details of construction. If these come up to their standards, and if they are satisfied as to your character and financial responsibility, you will have no trouble in getting the loan you need.

A COMPETENT ARCHITECT and a RELIABLE CONTRACTOR are your BEST FRIENDS

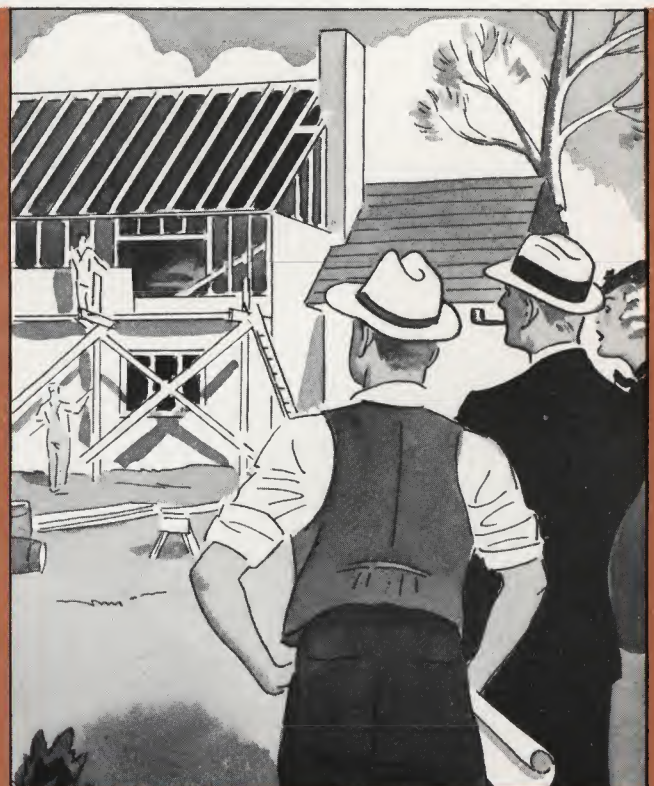
TO INSURE good design and efficient planning in your home the first step is to retain an architect. His services are many times more valuable than his modest fee in enabling you to avoid the many pitfalls that lie ahead. He will study your family and each individual's needs. He will study the plot of land you have selected to determine the most satisfying and attractive setting and location for your house and the rooms within it. Then he will submit sketches to you so that you may select the type of house which you like best.

After these preliminary steps, he will prepare detailed working plans and consult with you on every important point to insure your satisfaction. He knows how to provide the most attractive, practical and efficient arrangement of rooms; how to get the maximum of air and sunshine in your house and countless other important points so often overlooked.

Then your architect will prepare the specifications which are the detailed instructions for construction methods and materials which the contractor will use in actually building your home.

Good builders are easy to find. Their reputations among satisfied customers, the recommendation of your architect and the quality of materials they have used in other jobs will make their selection to bid on building your home an easy matter. Your architect will help you to select the successful bidder. Remember that the lowest bid may not be the best.

When you have finally selected your builder, contract with him to build your home for a fixed price determined in advance. Don't try to "chisel" him down. He will quote you a fair price with only the reasonable profit to which he is entitled included in it. If you find that your house, as you have planned it, is going to be too expensive for your budget, consult with your architect and economize on non-essential conveniences and refinements that can be added later at little or no additional expense. Don't skimp on the basic structure. You will want to keep it sound and permanent. It is far more expensive to make changes in the basic structure of a house after it is built. As an example, home insulation is much more expensive for an existing home than one under construction.



These TYPICAL HOMES will visualize



The TUDOR house is an adaptation of the construction system of the 15th and 16th centuries in England. Half-timber work at the gable ends is the most frequently used feature. The exterior surface is generally of stucco. Timber beams are often exposed above and below the casements. Steel swing casements are most frequent in the more expensive homes. High, dramatic chimneys, topped by flue pots, are modern expressions of the huge open fireplaces that constituted the sole heating systems of Old England.

The ENGLISH COTTAGE or Cotswold type has limitless applications. Generally, it is characterized by rustic simplicity, by apparent carelessness and crudeness of construction, and by an inviting naturalness. It is small and informal. Often it retains features that are generally Tudor in character. It is not uncommon to see huge, uneven beams, both on the inside ceiling surfaces, and on the exterior.



The AMERICAN COLONIAL is a more advanced development in construction from the period of the Cape Cod house. Greater comfort and an increased standard of living, resulted in the use of more refined detail, adapted from the classical sources. Simplicity, however, is a dominant factor. In the eastern United States, the American Colonial home tends toward a squareness and solidity of form, with a frank expression of multipaned windows, large chimneys, and the use of clapboards, rather than the older finish of shingle, found in the Cape Cod.



The modern CAPE COD house, one of the most adaptable of styles, presents a strikingly picturesque, simple and livable small home. Built to withstand the harsh winds and storms of the New England coast, this house was originally only one story in height, with spaciouly steep, gabled roof areas that acted as slides for heavy snows, a huge chimney in the center of the house, and great open fireplaces. The exteriors were surfaced with large hand-hewn shingles.

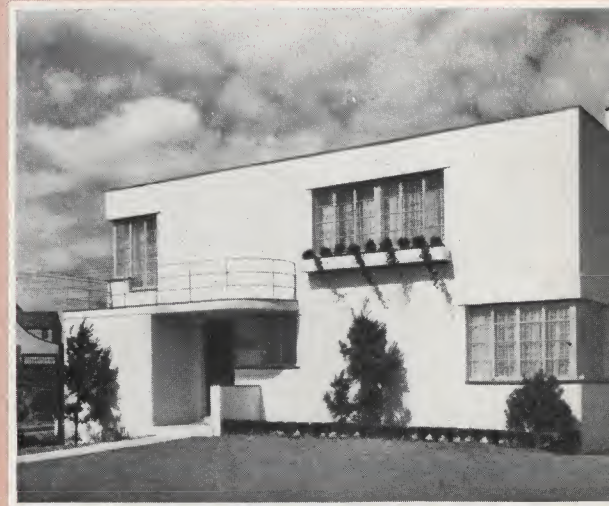
help you the popular architectural styles



The DUTCH COLONIAL is a more recent adaptation of style in American small house architecture. It is characterized by a long sloping gambrel type roof that projects in wide eaves. The roof may cover both the main unit of the house and the front porch in a single sweep. Because of its great roof expanse it requires the use of dormer windows. Side walls of stone and clapboards, or brick and clapboards, together with the characteristic window blinds create an attractively simple and efficient small home.



The GEORGIAN house is a formal, symmetrical type that is admirably suited to the requirements of larger and more expensive houses. Generally of brick finish, it also has a carefully spotted and symmetrical window placement, wood trim, and tall, expansive chimneys. It is a particularly solid type of building, both structurally and in appearance. Formality is its chief feature, and to substantiate this, the Georgian house makes use of classical forms and detail.



The MODERN style expresses the requirements of modern living in terms of efficient simplicity. Straightforward expressions of the various units of the house, and scientific acceptance of light and air as adjuncts to healthy living, have resulted in a form of dwelling that reflects a new mode of life. Exteriors are generally of cement or cement product with plain surfaces. Corner windows, increased window area, flat roofs, lack of extraneous decoration, and sharp angles combine to express modern construction.

The SPANISH style is finished in stucco, with brightly colored roofs, doorways, window boxes, and blinds. In California, and in other warm areas of the United States, Spanish architecture is both logical and practical. The houses may be but one story in height, rambling and informal in arrangement, with small windows and thick walls. The true Spanish house is built around an open court.



... and now you're
**READY TO
BUILD!**

LET us assume that you are now ready to build your new home. You and your architect are in complete agreement on the plans. You have received bids and you have chosen a contractor to build your house. You have arranged to finance it in the modern way—an amortizing mortgage plan.

Before you actually “break ground” you should know something about the basic structure—the foundation and framework—of your house. The following paragraphs and this “skeleton” house will tell you briefly some of the more important points of good construction. And these points are equally important for your guidance if you plan to buy a ready-built house rather than build your own.

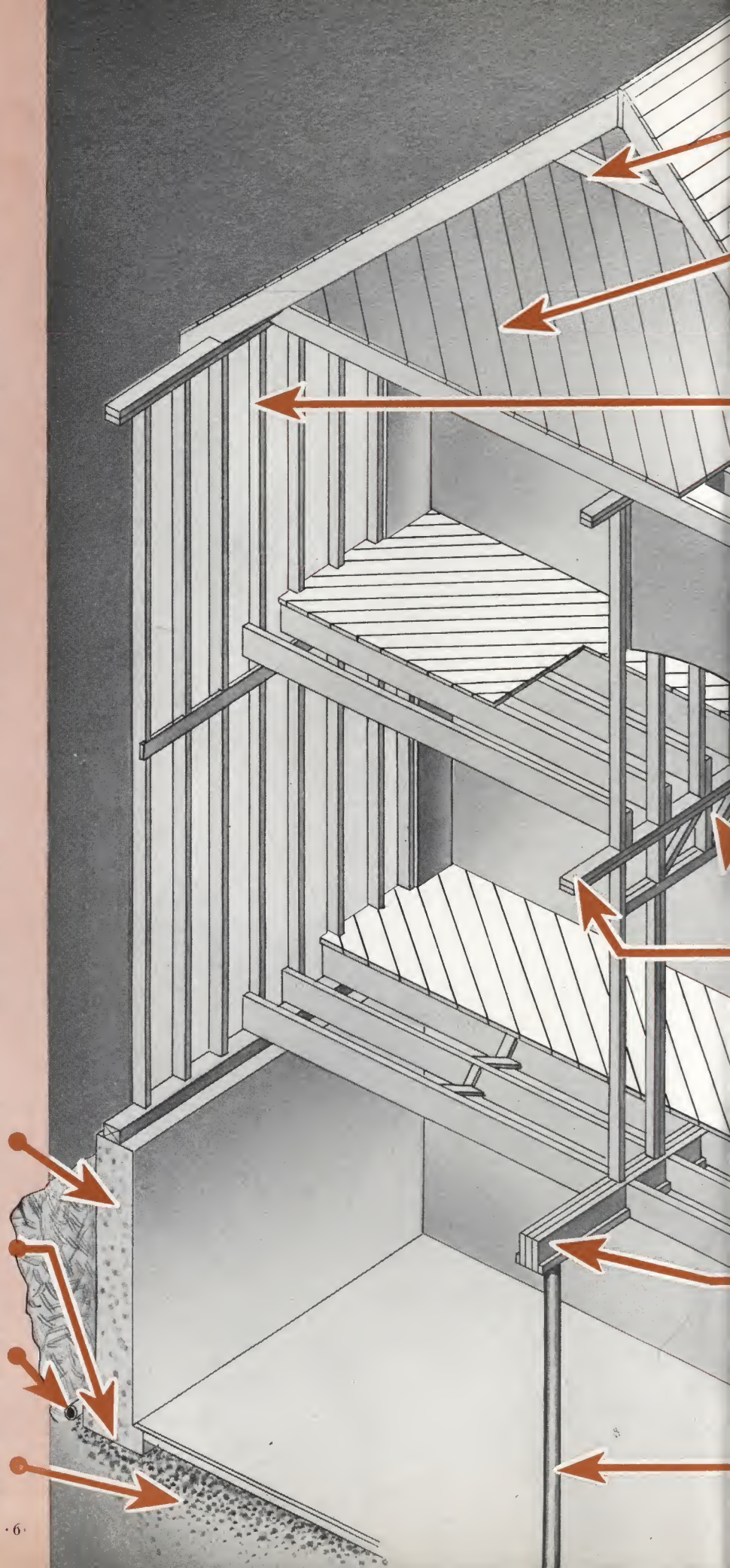
Most of the parts in the basic structure of a house are hidden. There are certain points of good construction about these hidden members which all good architects insist upon and all good builders observe because they will make or break a house. They represent the difference between a sound, substantial, maintenance-free home and one which will be a constant worry and expense.

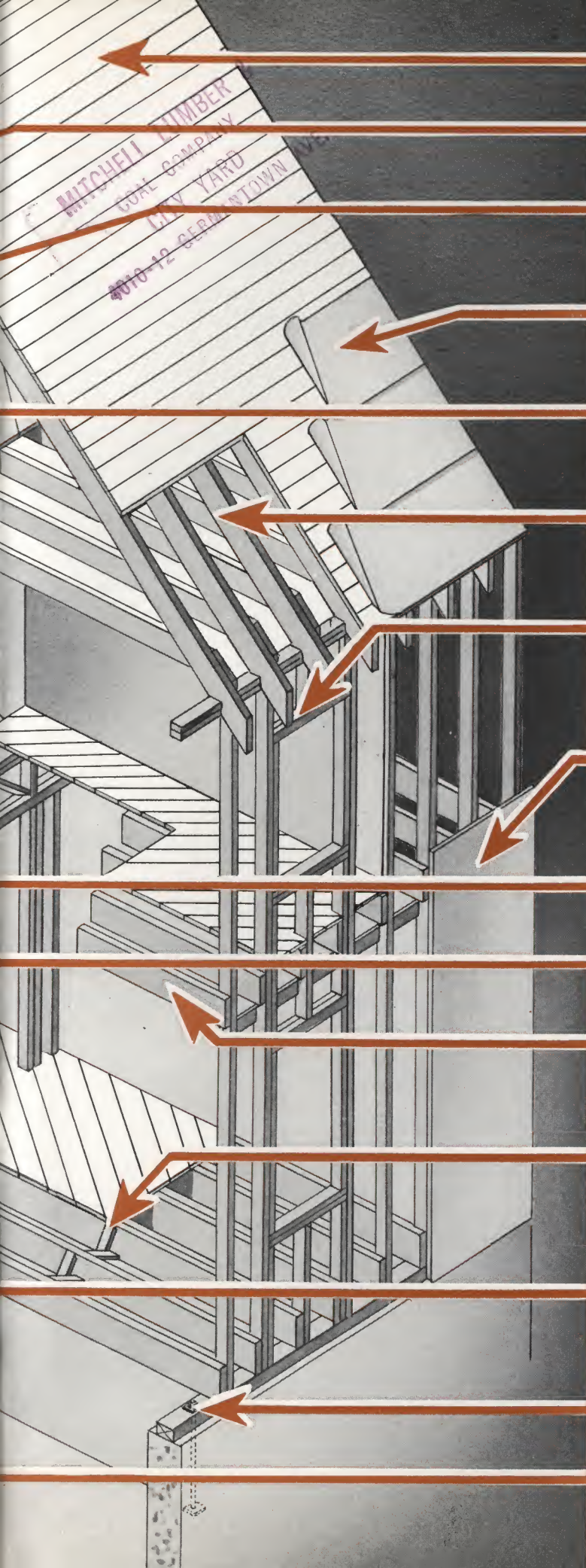
Foundation walls have two very important functions to perform. They must be square, plumb and level to support the entire weight of your house and they must be water-proof to keep your basement dry. They should be treated on the outside with a coat of cement plaster and Johns-Manville Aquadam, an excellent damp-proof coating.

Foundations would have a tendency to sink into the ground if a broad platform were not provided to support them. This is called a “footing.” Footings are also required under piers and columns. They must have flat, true bearing surfaces with sharp corners resting on firm, undisturbed soil to give maximum support.

For greater assurance of a dry basement, the installation of drain tile adjacent to the footings with connecting tees extending through them to the cinder bed under the basement floor, connected to a sewer or dry well, will provide good drainage.

A bed of cinders, well tamped as a foundation for the concrete floor is recommended to facilitate drainage. Where unusual water conditions exist, the floor and foundation walls should receive Johns-Manville Waterproofing Membrane, and the floor should be reinforced with J-M Welded Wire Fabric.





Roofing boards are nailed at right angles to the rafters. They should fit tightly to provide a good surface for applying the roofing material. The best type is tongued and grooved.

Collar beam bracing should run across from rafter to rafter above the middle of the attic height on every second rafter to add stiffness.

The sub-floor should be laid diagonally and adequately nailed to provide a good foundation for the finished floor and add strength and rigidity to your house. Between the finished floor and sub-floor Johns-Manville Deadening Felt should be used as precaution against creaking and noise transmission.

A waterproof paper or felt should be applied over the roofing boards to insure maximum protection before the roofing is laid. An excellent material for this use is Johns-Manville Asbestos Slaters Felt—asbestos fibre saturated with asphalt.

Studs are the upright members (usually 2" x 4") which form the walls and partitions of a house and to which the wall surfaces are applied. They should be one piece from plate to plate or plate to sill and are usually spaced about 16 inches apart. Studs should be doubled along the sides of doors and windows and tripled at all corners in the exterior walls.

Rafters support the roof and are securely nailed to the ridge, plate and attic floor joists. They are 2" x 8" or 2" x 10" and are spaced about 16 inches apart, although, like joists, their size and spacing is determined by the architect based on the load they must carry.

Headers run across the top and bottom of windows and across the top of doors. They are also placed at right angles to the joists where stair openings and fireplaces occur. Headers under windows should be double and may be laid flat. Across the top of windows and doors, however, they must be laid *on edge* to provide more rigidity and support.

Sheathing is nailed directly on the studs on the outside of the house. It furnishes an unbroken surface on which to apply the outside finish and adds strength and rigidity to your house. There are two types of sheathing commonly used in good construction—Johns-Manville Insulating Board and shiplap or tongued and grooved wood sheathing laid diagonally. Over the sheathing waterproof Johns-Manville Weather-tite Building Paper should be applied for added protection against wind and rain.

In addition to taking the precaution of placing the double headers on edge above openings, trussing is necessary over large openings (7 feet or more) particularly in bearing partitions and outside walls. This will minimize the cracking of plaster, the binding of windows and the settling of floors.

Plates join the studs together to form partitions and are placed both at floors and ceilings. Top or ceiling plates should be doubled and lapped at corners.

Joists are the timbers (usually 2" x 8" or 2" x 10") which support the floors. They run at right angles to the girders. The size and spacing of joists depend upon their length and the load they must carry. Joists should be doubled under partitions and around openings, such as stairways.

Bridging between joists is an important factor. Before the sub-floor is laid, a straight row of cross-bridging should be installed between the joists in the center of spans up to 16'. For greater spans two rows of bridging are necessary. Bridging is a series of X's made by securely double nailing at each end strips of wood (about 2" x 3") to the sides of the joists.

Under the main divisions or bearing partitions of your house it is necessary to place girders (steel I beams or large timbers the proper size of which your architect will determine) to support the weight of these partitions and a part of the weight of the whole house. Illustration shows a "flush" type girder. This provides considerable additional headroom which has particular advantages for the later construction of the recreation room in the basement, as it permits the heating and water supply pipes to be placed close to the ceiling.

This part of the framing is called a sill and it serves to fasten the super-structure of the house to the foundation. The sill should be bolted down to the foundation and bedded in mortar with end joints occurring only at corners or over solid masonry.

Girders are supported by bearing posts, either steel tubing, reinforced and filled with cement (lally columns), or large timbers, placed on individual footings.

Because of its general acceptance, Balloon Frame construction has been shown here. Equally acceptable are Platform Frame and Modern Brace Frame construction.



J-m Insulating Board provides stronger, safer SHEATHING

SHEATHING plays an important role in the construction of a house. It is nailed directly to the studs on the outside and furnishes a smooth, unbroken surface to receive the finished exterior and adds strength and rigidity to your house.

There are two types of sheathing commonly used in good construction—Johns-Manville Insulating Board and shiplap wood sheathing laid diagonally. Many builders prefer to use the J-M Insulating Board because, in addition to possessing greater insulation efficiency, actual tests made at Columbia University have proved that it is stiffer

than diagonally laid wood sheathing and, since it comes in large sheets, it is easier and quicker to install than wood.

Made of selected spruce fibre, each sheet of J-M Insulating Board is 4 feet wide by 8 to 12 feet long and covers 32 or more square feet. That means that you will save money in labor because it takes only $\frac{1}{3}$ the time required to sheath a house with wood.

If your house is to be brick veneer or stucco, sheathing can be omitted if Johns-Manville Steeltex is used as the base on which the brick and mortar or stucco is applied.

This same rugged material is an Excellent Plaster Base

Manufactured to the same exacting standards and made of the same high-grade spruce fibre as J-M Insulating Board, Johns-Manville Insulating Lath furnishes an excellent plaster base and adds strength and comfort to a house.

Its large, easily handled sheets provide labor economies during installation and plastering contractors agree that it prevents lath marks, saves plaster, and is second only to J-M Steeltex (see page 15) as a plaster base.



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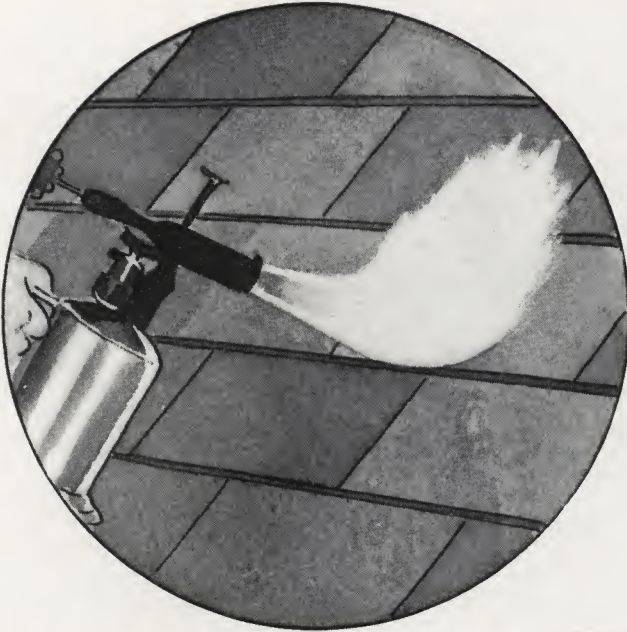
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Scientific Research and Modern Progress *have outmoded the homes of even 5 years ago*

Looking back from 1929 over the past 100 years, it became obvious that very little had been done to improve the structural building materials used to protect the moderately-priced home from fire and the elements. Recognizing the inherent weaknesses of many of the materials commonly used in the past for this purpose, the engineers of the Johns-Manville Research Laboratories attacked the problem. Their development work was based on the principle that the ideal achievement would be a completed wall and roof structure, at a reasonable price, which would permanently resist the ravages of time and weather; which would protect against destruction by fire; and which would stand as a barrier to the passage of heat and cold . . . without sacrificing architectural beauty on the outside or decorative possibilities within. In other words, a method of construction that literally provided a Triple-Insulated House!

Today, maintenance-free materials having these qualities are actually available. In studying the following pages, you will note how each Johns-Manville material, as used in the J-M Triple-Insulated House, contributes to the construction of better and more modern homes!

Buy your **FIRST** and



MOST vulnerable of all parts of a house is the roof. Statistics show that more than 23% of all residential fires start on roofs that will burn. They show that millions of dollars are spent every year on roofs that wear out and need painting.

From the very moment your new home is finished it becomes the prey of two dread enemies—fire and weather. Fire—always waiting to consume it in a swirl of smoke and flame. Weather—working day and night, to rot, wear out and break through.

Not all the insurance you can buy can quench a fire. No one can stop weather at its work. Yet you can remove every roof worry now. You can roof with Johns-Manville Asbestos Shingles—fireproof, weatherproof, permanent.

A roof armored against time and deterioration

The experience of thousands of home owners testifies to this statement: *Not one Johns-Manville Asbestos Shingle has ever caught fire—not one has ever worn out.* When you roof with J-M Asbestos Shingles, you roof for the last time.

Made of asbestos fibres and Portland cement, moulded under terrific hydraulic pressure into monolithic slabs, Johns-Manville Asbestos Shingles actually grow stronger with age! Here is a roof that will keep you and your property safe from roof-communicated fires—a roof you can safely forget because its first cost will be the last.



Johns-Manville Salem Shingles provide a mellowness of color that heretofore has been obtainable only by years of weathering. Even when first applied, there is no obvious newness about these staunch, fireproof guardians of the home.



Like the Salem Shingles shown at the top of the page, Johns-Manville American Method Shingles retain the traditional roof design found on early Colonial homes. They provide, however, a livelier effect in tones of red, gray, black and green.

JOHNS - MANVILLE ASBESTOS SHINGLES

LAST ROOF when you Build



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Johns-Manville Dutch Lap Asbestos Shingles were developed in recent years to meet the demand for permanent, fireproof roofs which would retain the characteristic horizontal and vertical lines of the American Method style, yet could be applied at a very economical cost. With their ability to be applied with an exposure ranging from $\frac{2}{3}$ to $\frac{3}{4}$ of their width, and with their simple method of application and low cost, they can truly be called the modern roof.



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For years, one of the most popular designs in asbestos shingles has been the Hexagonal Method shown here. Its ancestry can be traced back to the diagonal designed shingles originally found on French farm homes. The Hexagonal Method shingle makes one of the most economical asbestos roofs. Its unusual lines are ideal for use with half-timber wall treatments. Copper storm anchors, in addition to regular nailing, hold the shingles secure against the severest blow.



At left:

J-M ASPHALT SHINGLES

Second only to J-M Asbestos Shingles are Johns-Manville Asphalt Shingles. Their heavy coating of colorful minerals provides a very effective barrier to fire. Made of high grade felts, saturated and coated with selected asphalt and covered with a thick, rolled-in surface of granulated minerals, these shingles provide long years of service at a most moderate cost.

There are many types of asphalt shingles on the market today. The cheap "single coverage" types are poor investments because they soon need replacing and are much too apt to curl and leave your home unprotected. In making your selection be sure to insist upon a heavy, durable product like J-M Asphalt Shingles.

You can have Exterior Walls



Of course you will plan to have the kind of doorway that seems to welcome your guests as they approach. There are many excellent designs available. But no matter what type of door you select, you can rely on Johns-Manville Cedargrain Siding Shingles to harmonize. Although they reproduce the effect of stained-wood shingles with amazing accuracy, they provide the advantages of fireproofness and freedom from upkeep expense.



IN THE PAST, home owners have taken it for granted that shingled side walls were subject to periodic painting and expense—that they would rot or wear out and have to be replaced—that they offered no protection against fire.

Johns-Manville scientists have changed all that in one of the most significant developments for modern home building. Today, the exterior walls of your house can have all the charm and texture of finest wood, and yet be made with a combination of two imperishable materials, asbestos and portland cement. No longer need you take alarm when a brush fire in the field nearby gets out of control. No longer need you rack your brains to figure out how you can afford to paint the outside of your house again this year or next.

J-M Cedargrain Asbestos Shingles, as the name implies, faithfully reproduce the pleasing softness of hand-split wood shingles. They are available in weathered gray, green and brown, with irregular butt lines. They can not rot or wear out, and they will never require protective painting.

that will never require paint or repairs.

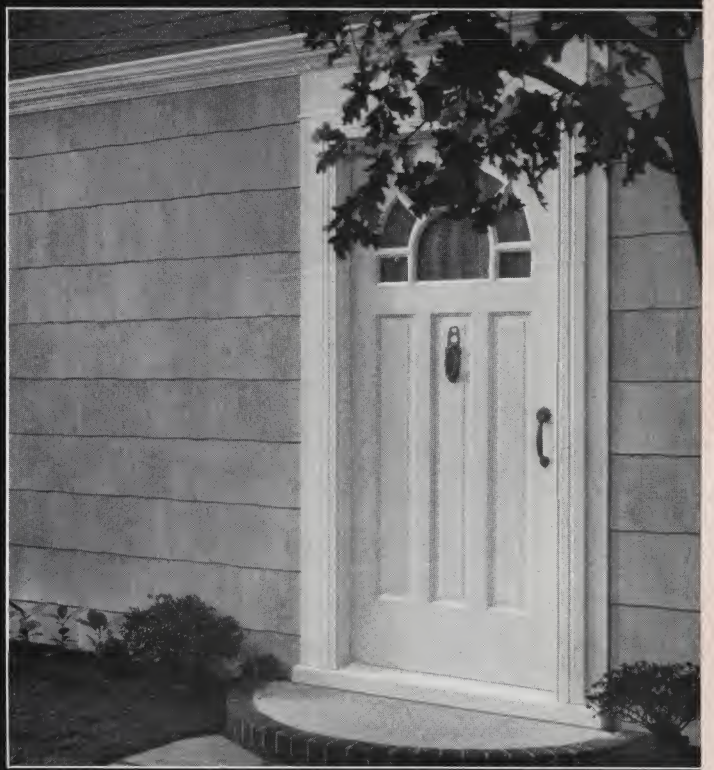
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There is nothing more ideal for the small house than the effect of shingled walls. To this adaptation of the familiar Cape Cod style, J-M Cedargrain Shingles, applied with wide exposure, lend an air of spaciousness and substantiality. Another siding effect which harmonizes with many forms of architecture is that of clapboards. Here again, Johns-Manville Cedargrain Siding provides a fireproof, permanent material which has all the beauty of wood. Still another effect is that of random-width shingles laid with irregular exposure. This effect is often used on informally designed cottages.



In sunlight, Cedargrain Asbestos Shingles take on the soft brilliance generally associated with stained or weathered white siding. They are also made in a variety of pleasing colors. Their heavy, tapered butts impart a rugged effect under all conditions of light and shade.



Another striking doorway effect, to which Johns-Manville Cedargrain Siding Shingles contribute no small share of charm. The effect of wavy shadow lines, while strongly reminiscent of wood shingles, is nevertheless a feature entirely distinctive with asbestos siding.

Imperishable Roofs and Sidewalls of Fireproof Asbestos



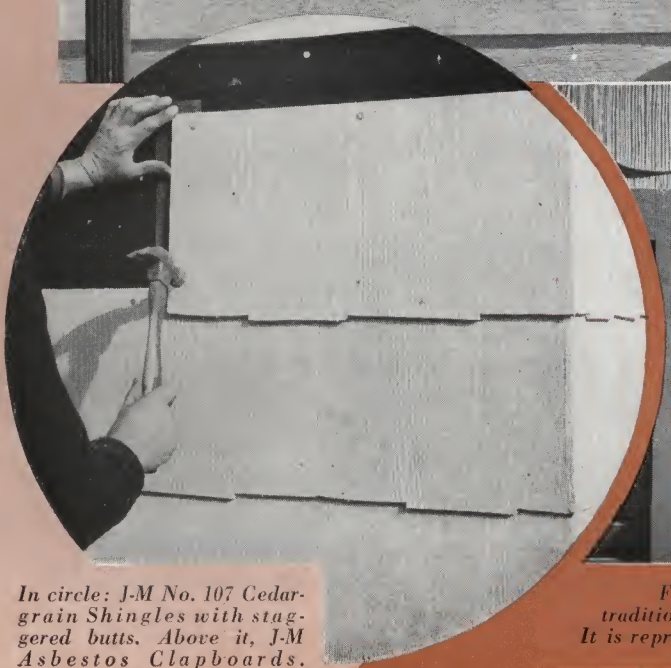
J-M Cedargrain Shingles being applied on a new home under construction—an assurance of freedom from repair and protective painting for the entire life of the house.



Another view of the home at the left. An extremely interesting effect has been obtained by contrasting the texture of the shingles with the smooth surface of flushboarding, painted pure white.



How well J-M Cedargrain Siding Shingles harmonize with other structural materials is shown in this view, where they have been used in combination with a brick-and-stucco wall at the entrance.

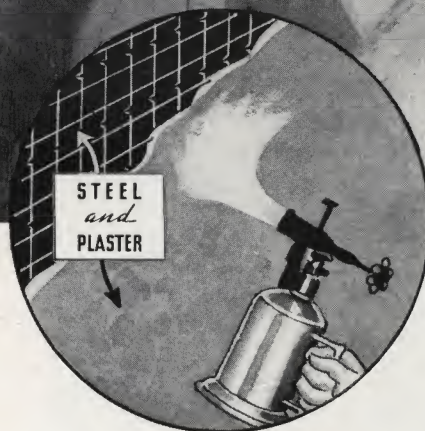


In circle: J-M No. 107 Cedar-grain Shingles with staggered butts. Above it, J-M Asbestos Clapboards.



For decorative touches, especially at gable ends, the traditional scalloped type of shingles is often used. It is reproduced here in J-M Cedargrain Shingles.

You need not fear **CRACKED PLASTER**



This new material strengthens walls and ceilings

NO PART of a house reveals its standard of construction more quickly than its plastered walls and ceilings. Nothing mars the appearance of a room more than cracks in plaster and repairing them is expensive maintenance.

Good, sound plaster is largely dependent upon a plaster base or lath that furnishes adequate, rigid support and reinforcement. Johns-Manville Steeltex is such a plaster base. Its welded, galvanized steel wire mesh and absorbent fibrous backing become an integral part of the plaster slab resulting in a one-piece steel-reinforced construction which adds strength and rigidity to your whole home. It is much more economical on plaster than ordinary laths because there is little or no wastage.

The steel wire reinforcement of J-M Steeltex distributes strains evenly in all directions and thus reduces the possibility of cracking plaster to an absolute minimum. The fibrous backing on J-M Steeltex, developed and constantly checked by the Mellon Institute of Industrial Research of Pittsburgh, is absorbent and becomes instantly bonded to the mortar.

Steeltex for plaster reduces fire hazards too. Since it cannot burn, it can always be depended upon to hold the plaster in place. Protection from fire and maintenance expense make J-M Steeltex, an essential in modern house construction.

YOU CAN HEAT YOUR HOME *Comfortably* ●

ON 20% TO 40% LESS FUEL IN WINTER_____



Colds and doctor's bills caused by drafty, hard-to-heat rooms are the penalties of living in an uninsulated house. J-M Rock Wool Home Insulation makes homes easier to heat uniformly, reduces drafts and saves as much as 30% on winter fuel bills.

TO build without insulating is the costliest mistake in home planning. Insulation is one of the few things you can buy that will actually pay for itself. It will pay for itself in lower fuel bills which, if you *do not* insulate, will be so much higher that you will actually be paying for insulation without gaining its many benefits. Insulate while you build and insulate completely in all exposed exterior surfaces, because, while it can be done later, it is a more expensive job to insulate an existing house.

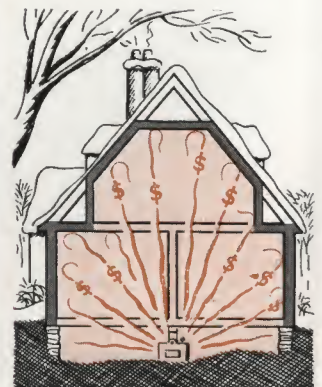
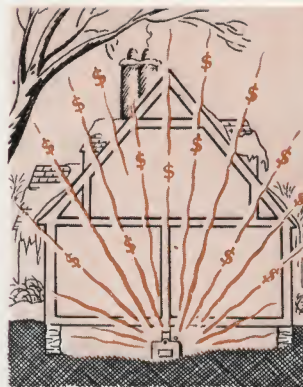
Be sure that your new home is *thoroughly* insulated against heat and cold with Johns-Manville Ful-Thik Rock Wool Home Insulation both in the hollow walls and in the attic. Four inches of this amazing fireproof "wool" have the same insulating efficiency as a solid stone wall *eleven feet* thick! Think what it will mean to you to have this invisible eleven foot stone barrier between you and the weather.

Like a Yearly Refund on your Fuel Bill

As each heating season rolls by you will be thankful for J-M Home Insulation. Hundreds of verified cases of fuel savings ranging from 20 to 40% have been reported from installations in existing homes. This sizeable saving—like a yearly refund on your fuel bill—will soon pay for J-M Rock Wool Home Insulation.



When a fire breaks out in a house with hollow walls, these empty spaces become flues through which it can race unobstructed from floor to floor. Completely filling those hollow walls, J-M Rock Wool provides dependable "fire insurance."



Note how the heat in the uninsulated house on the left leaks out through the roof and hollow walls, virtually heating all outdoors. The J-M Insulated house on the right costs 30% less to heat because J-M Rock Wool keeps heat inside.

● AND YOU CAN MAKE YOUR HOME *Cooler* BY AS MUCH AS 15° ON HOT SUMMER DAYS

NO more effective barrier to the summer sun could be put in your house than J-M Home Insulation. Records show that J-M insulated homes are as much as 15° cooler even on the hottest summer days.

Hollow walls are no protection

Between the inner and outer walls of a house there is a hollow space of almost four inches. Heat passes right through these spaces and through the roof. Some thick, effective barrier is needed to stop heat from escaping in winter and pouring into the house in summer.

Johns-Manville engineers discovered that homes *can* be adequately protected against heat and cold only by *filling* the hollow walls and the empty spaces between attic floor joists or rafters with a material that would prevent heat from passing through. They perfected Rock Wool, a fireproof, permanent insulating material astonishing in its efficiency.

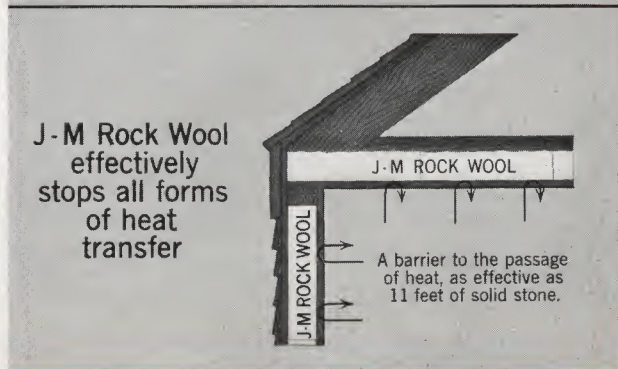
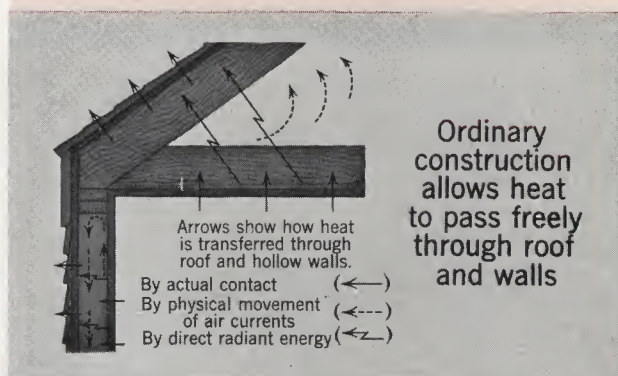
J-M Rock Wool is felted into "bats" of *full stud thickness* and uniform density—the only form of hand installed insulation that leaves no voids or thin spots—the only form with which you can be sure that those hollow spaces are completely filled from wall to wall, from top to bottom.



The summer sun pours heat into an uninsulated house all through the day, and remains "bottled up" there at night. Bedrooms feel like ovens. That can't happen in the house on the right, because J-M Rock Wool keeps heat outdoors.



Without special labor or equipment, without the slightest change in your plans or construction these amazing Rock Wool "bats" can be installed in your home at any time before the plaster lath is applied.



Heat travels in three ways, by conduction, convection, and radiation; in other words, by direct contact, by air currents, and by radiant energy. Some insulating materials stop only one method of heat transfer. J-M Rock Wool stops all three.

JOHNS-MANVILLE BUILDING MATERIALS

TRIPLE INSULATED

- *Fortified against Hot and Cold Weather*
- *Protected against Fire*
- *Armored against Time and Deterioration*

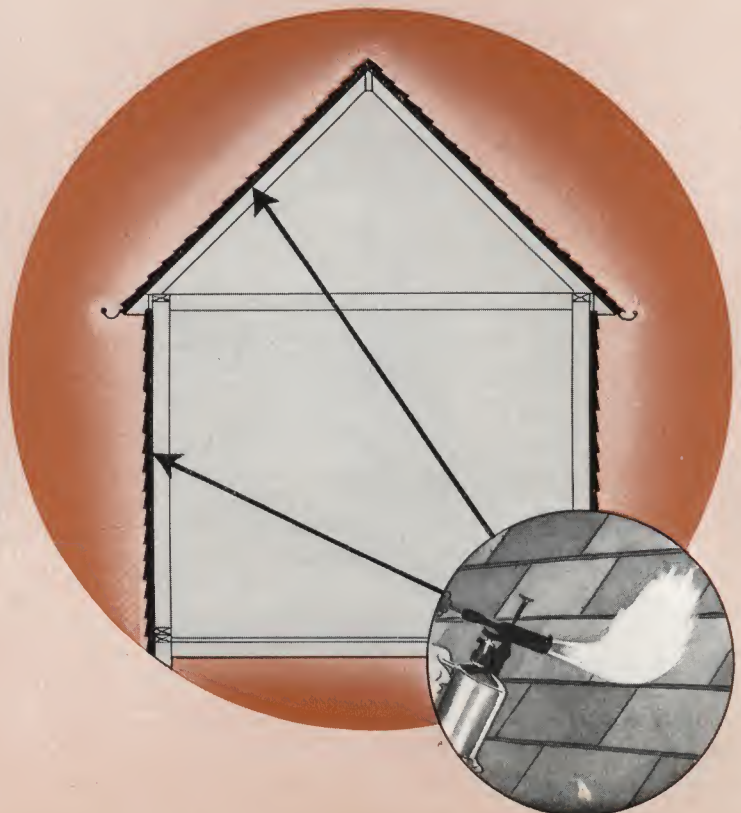
THE diagrams on this page illustrate how Johns-Manville Asbestos Shingles for the roof and the side walls; J-M Rock Wool Home Insulation in the hollow wall spaces and in the attic; and plaster walls and ceilings fortified with Johns-Manville Steeltex combine to provide true Triple Insulation. All these materials with their fire-proofness, their permanence, their freedom from

maintenance and their comfort giving values, offer a type of construction that is equally adaptable to the cottage and to the mansion, and within the reach of everyone.

By studying these illustrations, you will see why the three points of better construction found in the Johns-Manville Triple Insulated House insure a new standard of quality in home building.

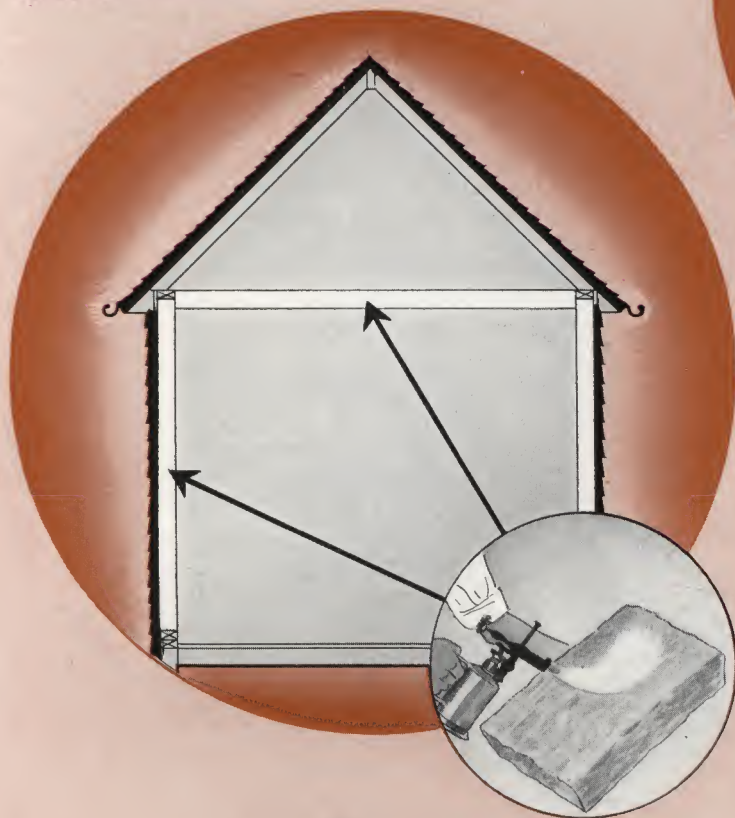
●

The complete outside covering of the Triple Insulated House, the roof and exterior side walls, are J-M Asbestos Shingles and Siding. This everlasting material cannot burn, rot or corrode, will never wear out, and will eliminate the need for spending money for paint to protect it.

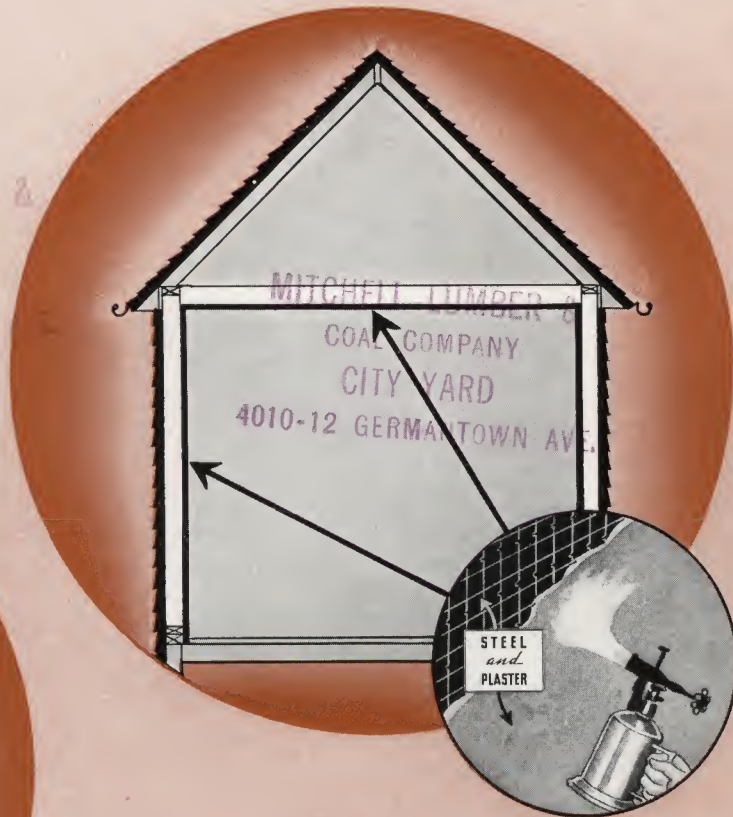


PROVIDE—FOR THE FIRST TIME—A HOUSE...

MITCHELL LUMBER &
COAL COMPANY
CITY YARD
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The hollow spaces between the plaster and outside walls and under the roof are filled with J-M Rock Wool Home Insulation, the most efficient insulation for the home that science has developed. This fireproof material will stop the spread of fire. It also will keep the house unbelievably cool in summer, and save as much as 30% on fuel bills in winter.



The interior plastered walls are reinforced with J-M Steeltex, a patented construction that will withstand even the flame of a blowtorch. Built on the same principle as reinforced concrete, it reduces to a minimum the expensive maintenance and dreaded plaster cracking that are so common to ordinary types of plastered walls.

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HELPFUL HINTS For

Some Important Points of Home Planning

MUCH (but never too much) has been written about the careful planning of floor layouts and the relation of rooms one to another. All too often (particularly in homes built without the guidance of a competent architect) unfortunate mistakes and omissions are discovered too late and dissatisfaction ruins the thrill of "a home of your own." The safest way to avoid such misfortunes is to retain a competent architect and with him plan all of your rooms to the minutest detail *in advance*.

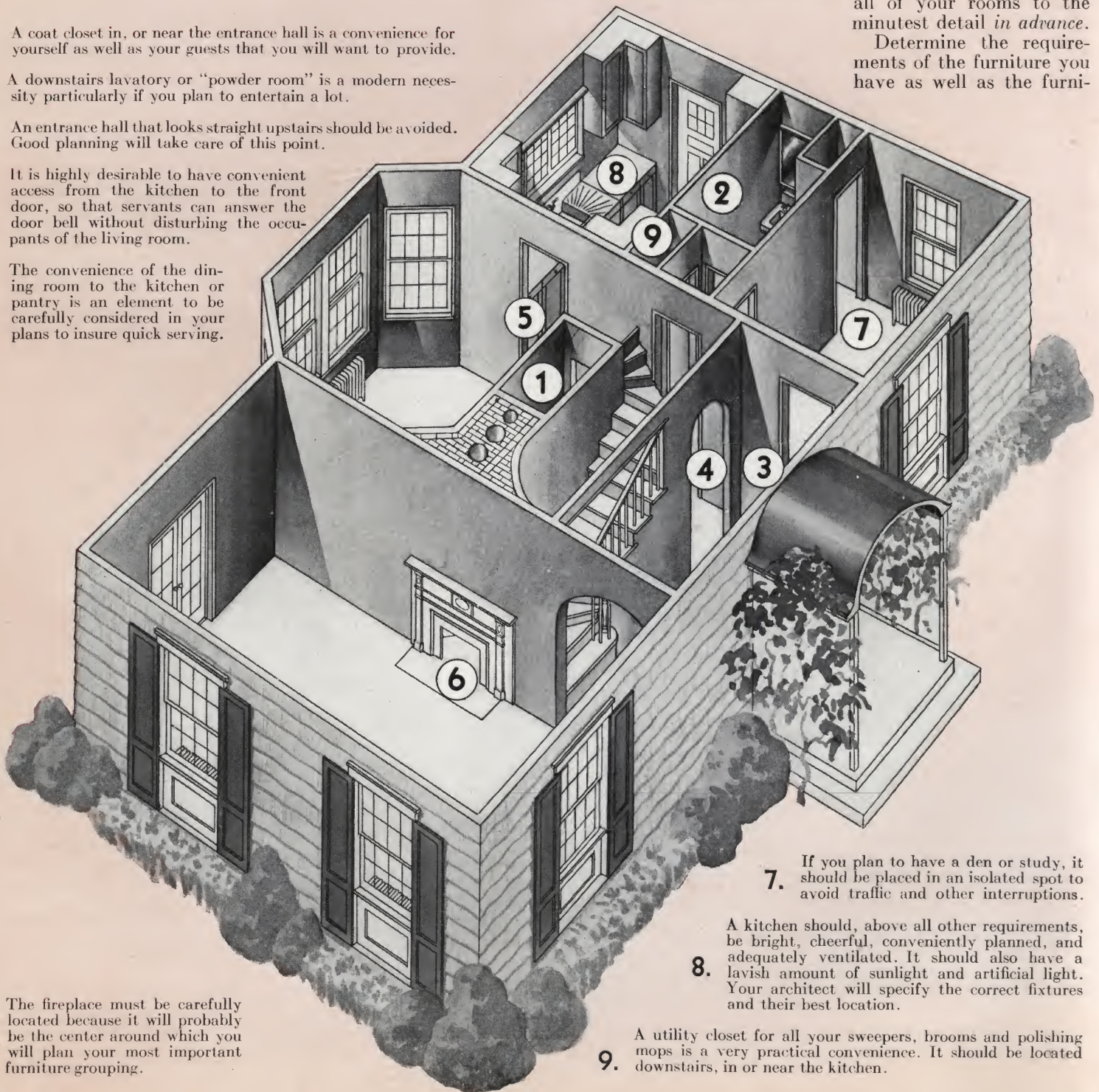
Determine the requirements of the furniture you have as well as the furni-

1. A coat closet in, or near the entrance hall is a convenience for yourself as well as your guests that you will want to provide.
2. A downstairs lavatory or "powder room" is a modern necessity particularly if you plan to entertain a lot.
3. An entrance hall that looks straight upstairs should be avoided. Good planning will take care of this point.

It is highly desirable to have convenient access from the kitchen to the front door, so that servants can answer the door bell without disturbing the occupants of the living room.

4. The convenience of the dining room to the kitchen or pantry is an element to be carefully considered in your plans to insure quick serving.
- 5.

The convenience of the dining room to the kitchen or pantry is an element to be carefully considered in your plans to insure quick serving.



7. If you plan to have a den or study, it should be placed in an isolated spot to avoid traffic and other interruptions.

A kitchen should, above all other requirements, be bright, cheerful, conveniently planned, and adequately ventilated. It should also have a lavish amount of sunlight and artificial light. Your architect will specify the correct fixtures and their best location.

- 8.

9. A utility closet for all your sweepers, brooms and polishing mops is a very practical convenience. It should be located downstairs, in or near the kitchen.

The fireplace must be carefully located because it will probably be the center around which you will plan your most important furniture grouping.

ROOM ARRANGEMENT

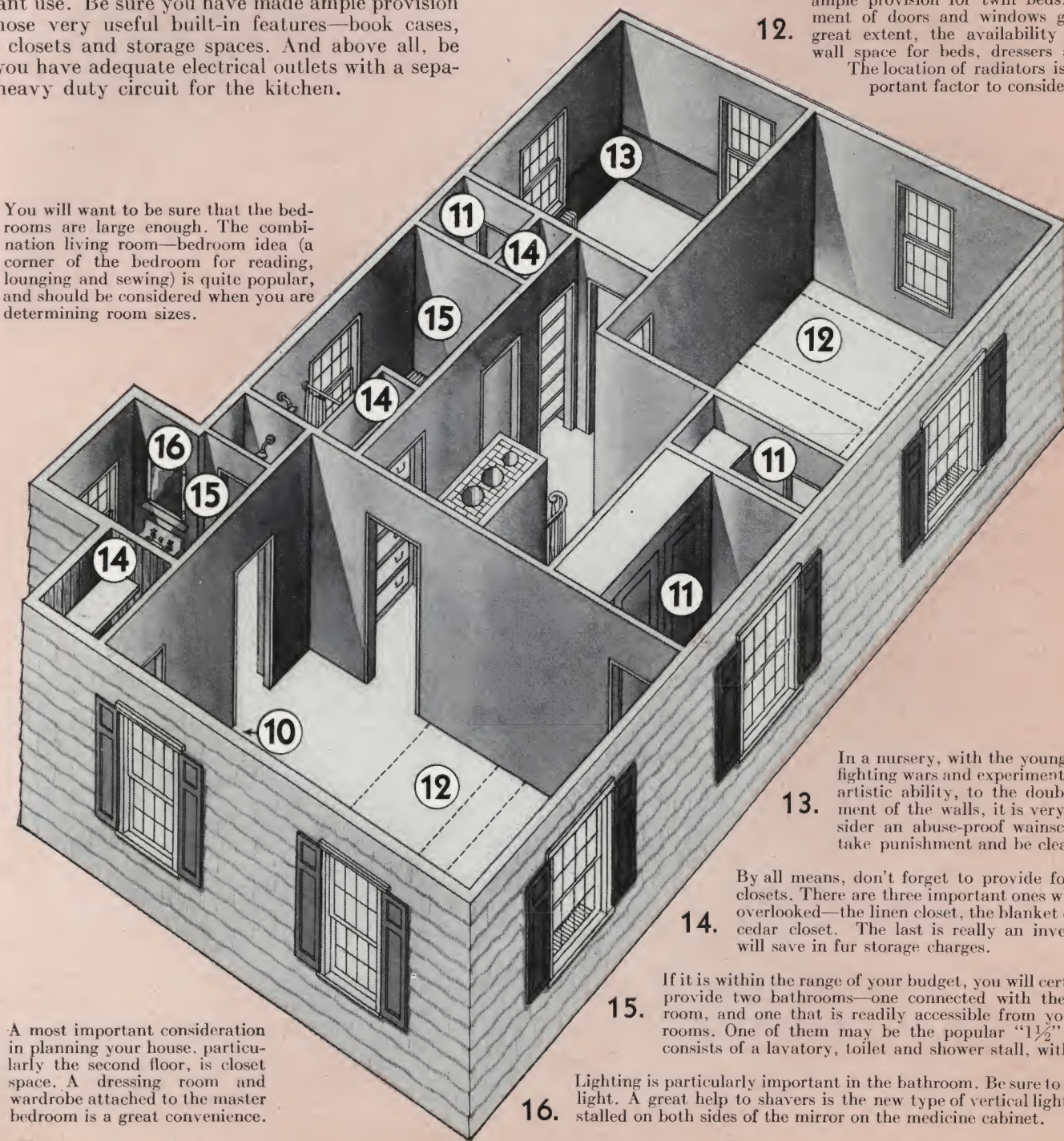
You will want to discuss with your Architect

ture you expect to buy. Be sure you have adequate wall space unbroken by windows, doors or radiators throughout your house to accommodate the larger pieces. This is particularly important in your living, dining and bed rooms.

Avoid "traffic congestion" in your rooms—some rooms in poorly designed houses are little more than corridors because it is necessary to walk through them to other rooms which are in constant use. Be sure you have made ample provision for those very useful built-in features—book cases, china closets and storage spaces. And above all, be sure you have adequate electrical outlets with a separate heavy duty circuit for the kitchen.

You will want to be absolutely sure that both the master bedroom and the guest room have ample provision for twin beds. The placement of doors and windows governs, to a great extent, the availability of unbroken wall space for beds, dressers and bureaus. The location of radiators is another important factor to consider.

10. You will want to be sure that the bedrooms are large enough. The combination living room—bedroom idea (a corner of the bedroom for reading, lounging and sewing) is quite popular, and should be considered when you are determining room sizes.



11. A most important consideration in planning your house, particularly the second floor, is closet space. A dressing room and wardrobe attached to the master bedroom is a great convenience.

13. In a nursery, with the younger generation fighting wars and experimenting with their artistic ability, to the doubtful improvement of the walls, it is very wise to consider an abuse-proof wainscot which can take punishment and be cleaned easily.

14. By all means, don't forget to provide for those extra closets. There are three important ones which are often overlooked—the linen closet, the blanket closet and the cedar closet. The last is really an investment for it will save in fur storage charges.

15. If it is within the range of your budget, you will certainly want to provide two bathrooms—one connected with the master bedroom, and one that is readily accessible from your other bedrooms. One of them may be the popular "1½" room, which consists of a lavatory, toilet and shower stall, with no tub.

16. Lighting is particularly important in the bathroom. Be sure to provide ample light. A great help to shavers is the new type of vertical lighting fixture installed on both sides of the mirror on the medicine cabinet.

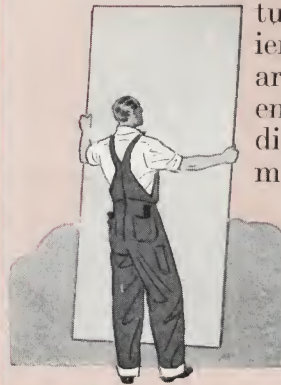
SOME SUGGESTIONS and CEILINGS in

IN THE FAMILY of Johns-Manville Decorative Insulating Board products, you will find a group of materials so versatile, so readily adaptable to decorative requirements, and so practical and economical to apply that they have simplified the construction of all types of interiors.

These all-wood fibre boards are made of selected spruce fibres, compressed into dense sheets. Highly moisture resistant and structurally strong, they provide attractive wall and ceiling surfaces. Yet because of their light weight and ease of handling, they are surprisingly inexpensive to use. Their natural color, a warm, neutral buff, harmonizes so well with any surroundings that no further finishing is required, although the surface may be painted, stained or otherwise decorated if desired.

And in the many styles and textures and the multitude of convenient ready-cut units in which they are available, they offer an almost endless choice of interesting and distinctive wall and ceiling treatments for new or old rooms.

J-M Bevel Tile, a textured interior material is available in five attractive finishes—



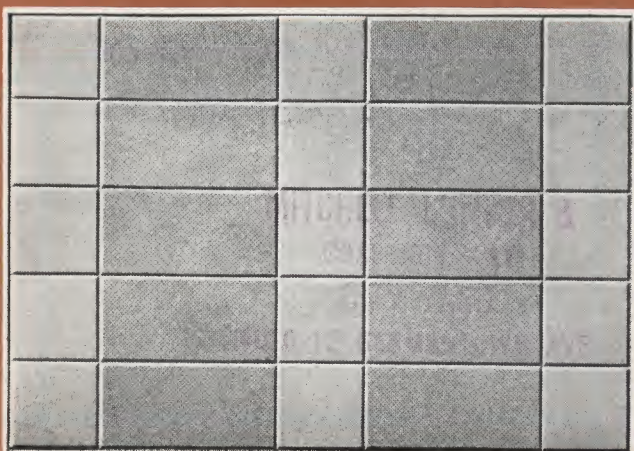
• 22 •



A combination of two Insulating Board products forms this effective wall design—Bevel Plank, beaded, in random widths; and Bevel Tile, wainscot high, in Coarse Fabric. The frieze is of Insulating Board; the chair rail is of wood.



A checkerboard design with alternating squares of Wicker and Sanded textures. By turning each succeeding Wicker tile 90 degrees, or by running the texture of every other row in the opposite direction, still more variety can be had.



Adaptable to ceilings of virtually any size, is this design with its alternating rows of 12" x 24" Bevel Tile in Medium Fabric, and 12" x 12" Bevel Tile in Sanded finish. With it, rooms can be made to appear longer or shorter.



J-M Decorative Ceiling Tile in an over-all checkerboard design made by alternating tiles of Designs C-1 and C-2. Large or small tiles may be used to make this design, depending on the size of the ceiling area to be covered. Sizes are 16" x 16" and 24" x 24".

for MODERN WALLS

Your New HOME

Sanded, Natural, Medium Fabric, Coarse Fabric and Wicker. Each of these textures is supplied in the form of individual beveled tile units.

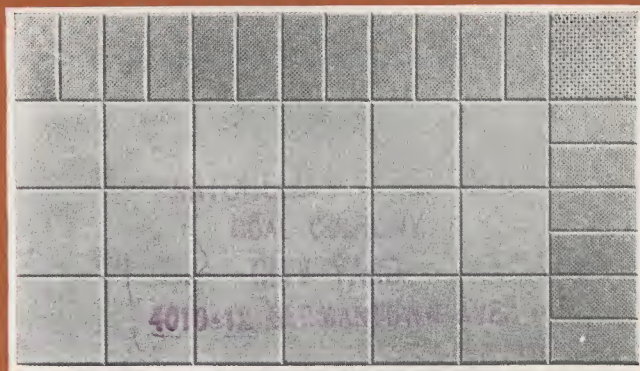
J-M Multiple Bevel Tile and J-M Decorative Ceiling Tile provide a most practical and inexpensive solution to the problem of ceilings. Furnished in sizes which are most convenient for overhead work, they can be applied at a fraction of the cost of ordinary materials. And they provide finished ceiling effects without the need for plaster, paint or kalsomine.

J-M Bevel Plank creates an effect similar to that of wood plank with beveled edges—an effect which is heightened by applying it in random widths. Its simple lines are in keeping with virtually any type of interior.

Always an effective wall treatment, paneled wainscoting when applied in the form of pre-designed J-M Wainscoting Panels (not illustrated) has the added advantages of low cost and quick, easy application. Each individual unit is a complete panel 18" x 48" in size. Where it is desired to decorate the entire wall to ceiling height, J-M Wainscoting Panels may be used with other forms of Insulating Board.

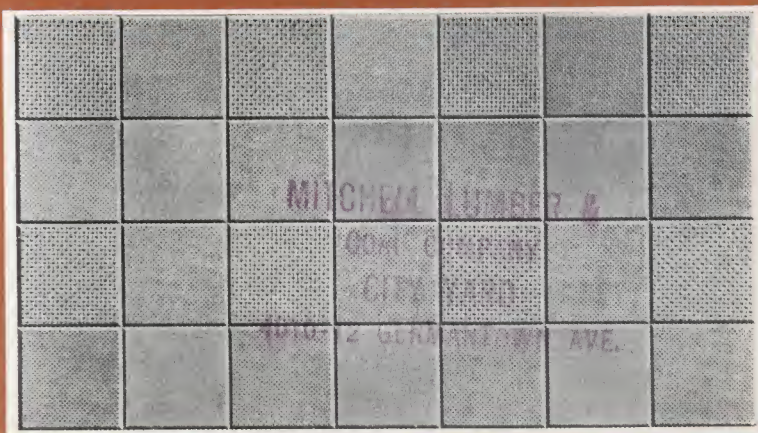


This interesting combination of J-M Bevel Tile designs employs the Sanded texture as the general finish, with a harmonizing border of Sanded and Coarse Fabric tile in alternating squares. The variation in tone is very pleasing.



In this design, a plain field of 12" x 12" Sanded Bevel Tile is set off against a border of 6" x 12" tiles in Medium Fabric. A distinctive touch is added by the use of a single 12" x 12" Coarse Fabric tile in each corner.

• 23 •



This three-texture ceiling design is typical of the interesting decorative effects that are possible by combining contrasting textures of J-M Bevel Tile. These units are standard 12" x 12" tiles in Sanded, Medium and Coarse Fabric textures.



Attractive paneled walls are easily made by cutting stiles and rails out of J-M Insulating Board and applying them over standard sheets. Wood moulds are then applied and the entire surface stained, painted, or left in its natural finish.



Will you waste

IT HAS been said that 20% of the average home goes to waste. That needless waste—actually one-fifth of a house—refers to the unused areas in the basement and attic. It is extravagant waste, too, for the owners are paying taxes and fuel bills on these already built but unused spaces. Naturally, in building or buying your new home, you won't want to be guilty of such extravagance. One way to prevent it is to plan your basement and attic carefully. These extra rooms, with walls and ceilings already provided, can be built for much less than the cost of your other rooms. The value of your house for re-sale will also be greatly enhanced, if you have one or both of these extra rooms, or at least have made provision for them to be easily added later. An "extra living room" or game room in your basement and an extra guest room or maid's room in your attic are excellent investments. The rooms illustrated here will give you some idea of the attractive things you can do.

A pleasant little refreshment nook with walls of J-M Bevel Plank.



Below: Two interesting basement rooms made with J-M materials.



20 % of your New Home?



Imagine starting life in a new home with an attic already finished like this! With J-M Bevel Plank the cost will be low.



J-M Insulating Board makes practical walls at low cost.



A snug little retreat like this would be welcome in any home.

A BASEMENT ROOM IS A SOUND INVESTMENT From a very practical standpoint, a basement room diverts a great amount of wear and tear from the living room. It is, in fact, an *extra* living room. Many attractive basement rooms can be built inexpensively with Johns-Manville Decorative Insulating Board materials for walls and ceilings, or with J-M Hard Board, which has a rich, brown finish. Its hard, glossy surface is remarkably resistant to abrasion, and it can be used ideally for an almost endless variety of uses.

Another excellent material is J-M Asbestos Flexboard, a flexible sheet material made of asbestos fibre and cement. It can be sawed and nailed like wood, and at the same time, it offers the additional advantages of being fireproof, rotproof and permanent. It is available in standard sheets for painting, and in pastel shades of buff, rose, green, slate and light gray.

SOME SUGGESTIONS FOR ATTIC ROOMS The day of the old wasteful catch-all attic with everything from Grandma's bustles to Junior's outgrown crib is very definitely past. Wise home owners capitalize on the excellent opportunities their attics offer for servants' quarters, extra guest rooms, rainy day playrooms, game rooms or even full-fledged apartments for paying guests or grown-up children.

Even if you do not intend to finish your attic while you build, you will be wise to provide for doing it later even to the extent of having your architect draw the plans for it. Finished useful attics or provision for them with plans drawn will make your house more salable.

Johns-Manville Insulating Board and Hard Board products are particularly well adapted to attic rooms. The use of these materials eliminates both lath and plaster and provides cozy, comfortable, living quarters.

Your ATTIC and BASEMENT can have



cozy rooms like these with decorative J-M INSULATING BOARD

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Few building materials are sufficiently adaptable to withstand the acid-test illustrated on these two pages—provide a perfect setting for both authentically Colonial and obviously modern rooms. Yet, as you can see, Johns-Manville Insulating Board comes through with flying colors. The always pleasing neutral buff color and the easy workability of this versatile material makes it a safe selection (and an economical one, too) for almost any type of interior treatment.

In the attic den or guest room shown on the left, large, standard sheets of J-M Insulating Board, attractively stenciled, have been used for walls and ceiling. On this page, factory-prepared units of J-M Decorative Insulating Board (J-M Bevel Tile in two sizes and two finishes) are shown on the walls and ceiling of a distinctive basement recreation room.

Left: Walls and ceiling of standard J-M Insulating Board in its warm natural buff, with bright stencilled designs, and with joints concealed by blue lacquered wood battens, form a perfect background for the furnishings of this cozy attic room. Two practical features are the built-in bunk and the window seat, each with storage space beneath.

Right: This "extra living room" in which might have been wasted basement space, owes much of its smartness and charm to the extraordinary adaptability of J-M Decorative Insulating Board. Bevel Tile in its attractive Wicker texture has been used on the ceiling. Natural finish Bevel Tile in a larger size creates the distinctly modern walls—an ideal background for the deservedly popular modern furniture.



These JOHNS-MANVILLE products make



The owner of this home selected J-M Asbestos Flexboard in Rose (tile design) and Buff (plain sheets), with chrome strips over the joints. The result is a room that will always be pleasant to work in, and that will require only a wiping to freshen the walls.



Johns-Manville offers two splendid materials for kitchen and bathroom walls—J-M Asbestos Wainscoting and J-M Asbestos Flexboard.

J-M Asbestos Flexboard is an asbestos-cement product which is truly remarkable because of its flexibility and the ease with which it can be handled. It can be sawed like wood and can be nailed without drilling and, since it is made of two imperishable materials, it is fireproof, rot-proof and permanent.

Flexboard is available in beautiful pastel shades of rose, green, slate, buff and light gray in both smooth and tile-scored sheets. The color is an integral part of the sheet—hence can never wear off. The surface can be easily cleaned.



There is nothing more satisfying to a housewife than to have attractive kitchen walls that require no special effort to keep bright. The factory-applied wax finish of J-M Asbestos Flexboard is highly resistant to dust and dirt.



In step with the modern range, cabinets and sink in this kitchen, is the wainscoting of J-M Asbestos Flexboard (tile design). Should the lustre of Flexboard become dim, it can be restored with ordinary household wax paste.

Colorful Walls for Kitchens and Bathrooms



J-M Asbestos Wainscoting is a strong, durable sheet material made of asbestos fibre and cement with a glossy, baked-on finish that will stand up under all normal conditions of service. It will not spot or stain, and its original freshness can be restored by simply wiping with a damp cloth or cleaning with soap and water.

Besides the tile design and plain color panels, J-M Asbestos Wainscoting is available in marbled finishes that are authentic reproductions of four fine marble specimens.

The smooth and tiled sheets of J-M Asbestos Wainscoting are available in light green, light blue, ivory, white and black which will suggest many modern treatments and color combinations.



In this bathroom, J-M Asbestos Wainscoting in Light Green was the owner's choice for the walls, with black trim. Interesting touches include Venetian blinds instead of the conventional shade, and the use of a colorful, transparent shower curtain.



Ordinary photograph cannot convey the harmony of color which can be obtained with Light Blue Asbestos Wainscoting in tile design, or plain sheets of the same material in Ivory, White Wainscoting also very effective with Blue.



When planning your home, make provision for a shower closet or a recessed tub with a shower fixture. Johns-Manville Asbestos Wainscoting, with its "baked-on" surface is ideal for use in either type of room. And its cost is low.

WALLS of Colorful Beauty — with

• Ideal for decorative effects both Conservative and Modern •



In this glistening modern bathroom, walls of J-M Asbestos Wainscoting color panels in ivory and light green present a colorful, easy-to-keep-clean background for the up-to-date fixtures. Scored, tile-like sheets of ivory J-M Wainscoting surround the alcove containing the ultra-modern square tub.

J-M FLEXBOARD and WAINSCOTING



Johns-Manville Decorative Asbestos Flexboard, in large labor-saving sheets of buff and green, trimmed with polished aluminum moulding, adds color and charm to this extremely practical modern kitchen and breakfast nook. The built-in, double-purpose china closet with its radio on the nook side is an especially interesting feature.

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